

AMENDMENTS TO THE CLAIMS

1.-14. (Cancelled)

15. (Previously Presented) A magnetic cell comprising:

a cell;

a magnetic particle comprising a magnetic material; and

a peptide which has an amino acid sequence comprising RGDS or GRGDS, and which has an adhesive activity for a cell surface molecule of the cell,

wherein the magnetic particle is coated with the peptide.

16. (Previously Presented) The magnetic cell according to claim 15, wherein the cell is selected from the group consisting of:

a cultured chondrocyte, a mesenchymal cell, a lymphocyte, a neural stem cell and a cell which expresses integrin.

17. (Previously Presented) The magnetic cell according to claim 15 or 16, wherein the magnetic particle further comprises a drug.

18. (Previously Presented) The magnetic cell according to claim 15 or 16, wherein the magnetic material is coated with the peptide at a ratio of from 3 ng to 6.6 μ g of the peptide to 1 mg of the magnetic particle.

19. (Previously Presented) The magnetic cell according to claim 18, wherein the magnetic particle further comprises a drug.

20. (Previously Presented) A culture of magnetic cells, wherein the magnetic cell comprises:

a cell;

a magnetic particle comprising a magnetic material; and

a peptide which has an amino acid sequence comprising RGDS or GRGDS, and which has an adhesive activity for a cell surface molecule of the cell,
wherein the magnetic particle is coated with the peptide.

21. (Previously Presented) The culture of magnetic cells according to claim 20, wherein the cell is selected from the group consisting of:

a cultured chondrocyte, a mesenchymal cell, a lymphocyte, a neural stem cell and a cell which expresses integrin.

22. (Previously Presented) The culture of magnetic cells according to claim 20 or 21, wherein the magnetic material is coated with the peptide at a ratio of from 3 ng to 6.6 µg of the peptide to 1 mg of the magnetic particle.

23. (Previously Presented) The culture of magnetic cells according to claim 22, wherein the magnetic cell is grown *in vitro* for up to 21 days.

24. (Previously Presented) A method for localizing a magnetic cell to a site in a subject, the method comprising:

administering a magnetic cell into a subject having a disease or a lesion, wherein the magnetic cell comprises a cell, a magnetic particle comprising a magnetic material, and a peptide which has an amino acid sequence comprising RGDS or GRGDS, and which has an adhesive activity for a cell surface molecule of the cell, wherein the magnetic particle is coated with the peptide; and

applying a magnetic field at or near a site of the disease or the lesion so as to localize the magnetic cell at or near the site in the subject, wherein the magnetic field is applied outside the body of the subject, or by embedding a magnet inside the body of the subject.

25. (Previously Presented) The method according to claim 24, wherein the cell is selected from the group consisting of a cultured chondrocyte, a mesenchymal cell, a lymphocyte, a neural stem cell and a cell which expresses integrin.

26. (Previously Presented) The method according to claim 24 or 25, wherein the magnetic particle further comprises a drug.

27. (Previously Presented) The method according to claim 24 or 25, wherein the magnetic material is coated with the peptide at a ratio of from 3 ng to 6.6 μ g based on 1 mg of the magnetic particle.

28. (Previously Presented) The method according to claim 27, wherein the magnetic particle further comprises a drug.

29. (Previously Presented) The method according to claim 24, further comprising retaining the magnetic cell at or near the site of the disease or the lesion for a period of 1-90 days.

30. (Previously Presented) The method according to claim 29, wherein the cell is selected from the group consisting of a cultured chondrocyte, a mesenchymal cell, a lymphocyte, a neural stem cell and a cell which expresses integrin.

31. (Previously Presented) The method according to claim 29 or 30, wherein the magnetic particle further comprises a drug.

32. (Previously Presented) The method according to claim 29 or 30, wherein the magnetic material is coated with the peptide at a ratio of from 3 ng to 6.6 μ g based on 1 mg of the magnetic particle.

33. (Previously Presented) The method according to claim 32, wherein the magnetic particle further comprises a drug.

34. (Previously Presented) A method for controlling the activity of a magnetic cell, the method comprising:

administering a magnetic cell into a subject having an injury or lesion, wherein the magnetic cell comprises a cell, a magnetic particle comprising a magnetic material, a linker, and a drug for controlling the activity of the magnetic cell;

applying a magnetic field at or near a site of the injury or lesion in the subject, and

releasing the drug at or near the site so as to control the activity of the magnetic cell in the subject.

35. (Previously Presented) The method of claim 34, wherein the linker comprises a peptide.

36. (Previously Presented) The method of claim 35, wherein the peptide has an amino acid sequence comprising RGDS or GRGDS.

37. (Previously Presented) The method of claim 34, wherein the drug is contained in the magnetic particle of the magnetic cell.

38. (Previously Presented) The method of claim 34, wherein the drug is contained in a magnetic particle.

39. (Previously Presented) The method of claim 38, wherein the magnetic cell and the magnetic particle containing the drug are administered to the subject simultaneously.

40. (Previously Presented) The method of claim 38, wherein the magnetic cell and the magnetic particle containing the drug are administered to the subject separately.

41. (Previously Presented) The method according to any one of claims 34-40, wherein the activity of the magnetic cells is differentiation of the magnetic cell.

42. (Previously Presented) The method according to any one of claims 34-40, wherein the activity of the magnetic cells is proliferation of the magnetic cell.

43. (Previously Presented) A method for inducing tissue repair in a subject, the method comprising:

administering a magnetic cell into a subject in need of a tissue repair, wherein the magnetic cell comprises a cell, a magnetic particle comprising a magnetic material, and a linker;

applying a magnetic field at or near a site of the tissue repair in the subject so as to retain the magnetic cell at or near the site of the tissue to be repaired, in an amount or duration sufficient to induce tissue repair.

44. (Previously Presented) The method of claim 43 wherein the linker comprises a peptide.

45. (Previously Presented) The method of claim 44 wherein the peptide has an amino acid sequence comprising RGDS or GRGDS.

46. (Previously Presented) The method of claim 43 wherein the magnetic cells is selected from the group consisting of:

a cultured chondrocyte, a mesenchymal cell, a lymphocyte, a neural stem cell and a cell which expresses integrin.

47. (Previously Presented) The method according to claim 43-46, further comprising administering a drug.

48. (Previously Presented) The method of claim 43-46, wherein the magnetic material is coated with the peptide at a ratio of from 3 ng to 6.6 µg based on 1 mg of the magnetic particle.

49. (Previously Presented) The method of claim 48, further comprising administering a drug.
50. (Previously Presented) The method according to claim 47, wherein the drug is contained in the magnetic particle of the magnetic cell.
51. (Previously Presented) The method according to claim 47, wherein the drug is contained in a second magnetic particle.
52. (Previously Presented) The method according to claim 51, wherein the magnetic cell and the second magnetic particle containing the drug are administered to the subject simultaneously.
53. (Previously Presented) The method according to claim 51, wherein the magnetic cell and the second magnetic particle containing the drug are administered to the subject separately.
54. (Previously Presented) The method according to claim 49, wherein the drug is contained in the magnetic particle of the magnetic cell.
55. (Previously Presented) The method according to claim 49, wherein the drug is contained in a second magnetic particle.
56. (Previously Presented) The method of claim 55, wherein the magnetic cell and the second magnetic particle containing the drug are administered to the subject simultaneously.
57. (Previously Presented) The method of claim 55, wherein the magnetic cell and the second magnetic particle containing the drug are administered to the subject separately.
58. (Previously Presented) A method for treating a tumor in a subject, the method comprising:

administering a magnetic cell to a subject having a tumor, wherein the magnetic cell comprises a cell; a magnetic particle comprising a magnetic material; a peptide which has an amino acid sequence comprising RGDS or GRGDS, and which has an adhesive activity for a cell surface molecule of the cell, wherein the magnetic particle is coated with the peptide; and an anti-cancer drug; and

applying a magnetic field to the subject so as to localize the magnetic cell at or near the site of the tumor in the subject, in an amount and duration effective to treat the tumor.

59. (Previously Presented) The method according to claim 58, wherein the magnetic field is applied outside the body of the subject.

60. (Previously Presented) The method according to claim 58, wherein the magnetic field is applied by embedding a magnet inside the body of the subject.

61. (Previously Presented) The method according to any one of claims 58-60, wherein the anti-cancer drug is selected from the group consisting of:

irinotecan hydrochloride trihydrate, mitomycin C, 5-fluorouracil, cisplatin, gemcitabine hydrochloride, doxorubicin and taxol.

62. (Previously Presented) A method for treating dementia in a subject, the method comprising: administering a magnetic cell to a subject having dementia, wherein the magnetic cell comprises a cell, a magnetic particle comprising a magnetic material and a linker; and

applying a magnetic field to a region of the brain of the subject, in an amount and duration effective to treat the dementia.

63. (Previously Presented) The method according to claim 62, wherein the cell is a neural stem cell or a cell which expresses integrin.

64. (Previously Presented) The method according to claim 62, wherein the linker comprises a peptide comprising RGDS or GRGDS.

65. (Previously Presented) The method according to any one of claims 62-64, wherein the magnetic cell further comprises a dementia therapeutic agent.

66.-117. (Cancelled)